TECHNICAL EXHIBIT
IN SUPPORT OF PETITION FOR RECONSIDERATION IN MB DOCKET NO. 87-268
ADVANCED TELEVISION SYSTEMS AND THEIR IMPACT UPON THE
EXISTING TELEVISION BROADCAST SERVICE
TELEVISION STATION KAAL
AUSTIN, MINNESOTA

Technical Exhibit

This technical exhibit was prepared in support of the *Petition for Reconsideration* for television (TV) station KAAL. KAAL operates on channel 33 digital television (DTV), and channel 6 analog (NTSC) television at Austin, Minnesota. KAAL has been ordered to channel 36 for post-transition DTV operation. KAAL intends to operate using the existing transmitting facilities of station KTTC-DT (Ch.36, Rochester, MN) which will vacate channel 36 and operate post transition on channel 10. KAAL's proposed post transition DTV facilities differ from those assigned by the FCC.

Station KAAL proposes to use the present KTTC-DT channel 36 transmitting facilities consisting of a non-directional (ND) antenna with a radiation center of 740 meters above mean sea level (AMSL) at site coordinates of 43-38-34, 92-31-35. The effective radiated power (ERP) is 324 kilowatts and antenna height above average terrain (HAAT) is 328 meters. Attached as Figure 1 is a coverage map showing the herein proposed post-transition facility noise-limited contour as compared to the contour for the current post transition DTV allotment and the KAAL(TV) analog Grade B contour.

Proposed KAAL Channel 36 Post Transition DTV Table of Allotment Parameters

It is requested that the Commission modify the proposed Appendix B DTV Table of Allotment specifications to the following:

Facility ID	State & City		NTSC	DTV								
			Chan	Chan	ERP (kW)	HAAT (m)	Antenna ID	Latitude (DDMMSS)	Longitude (DDDMMSS)	Area (sq km)	Population (thousand)	Percent IX Received
18285	MN	Austin	6	36	324	328	N/D	433834	923135	24813	475	0.1

Certification

KAAL certified on its FCC Form 381, Pre-Election Certification Form[1], that it will operate its post-transition DTV station pursuant to replication. From Commission's published Table I of 1998 Station NTSC and DTV Replication Information, the KAAL channel 6 KAAL analog facility served 551,831 persons over an area of 27,151 km^2. These values compare with the herein proposed post-transition facility which serves 475,553 persons over an area of 24,813 km^2.

It is furthermore noted that the proposed channel 36 post-transition allotment does not create interference in excess of 0.1 to other post-transition stations based upon the 2000 Census, except with respect to WLEF-DT on channel 36 at Park Rapids, Wisconsin (0.5%). Figure 2 is a tabulation of the allocation study performed for the Channel 36 post-transition facility.

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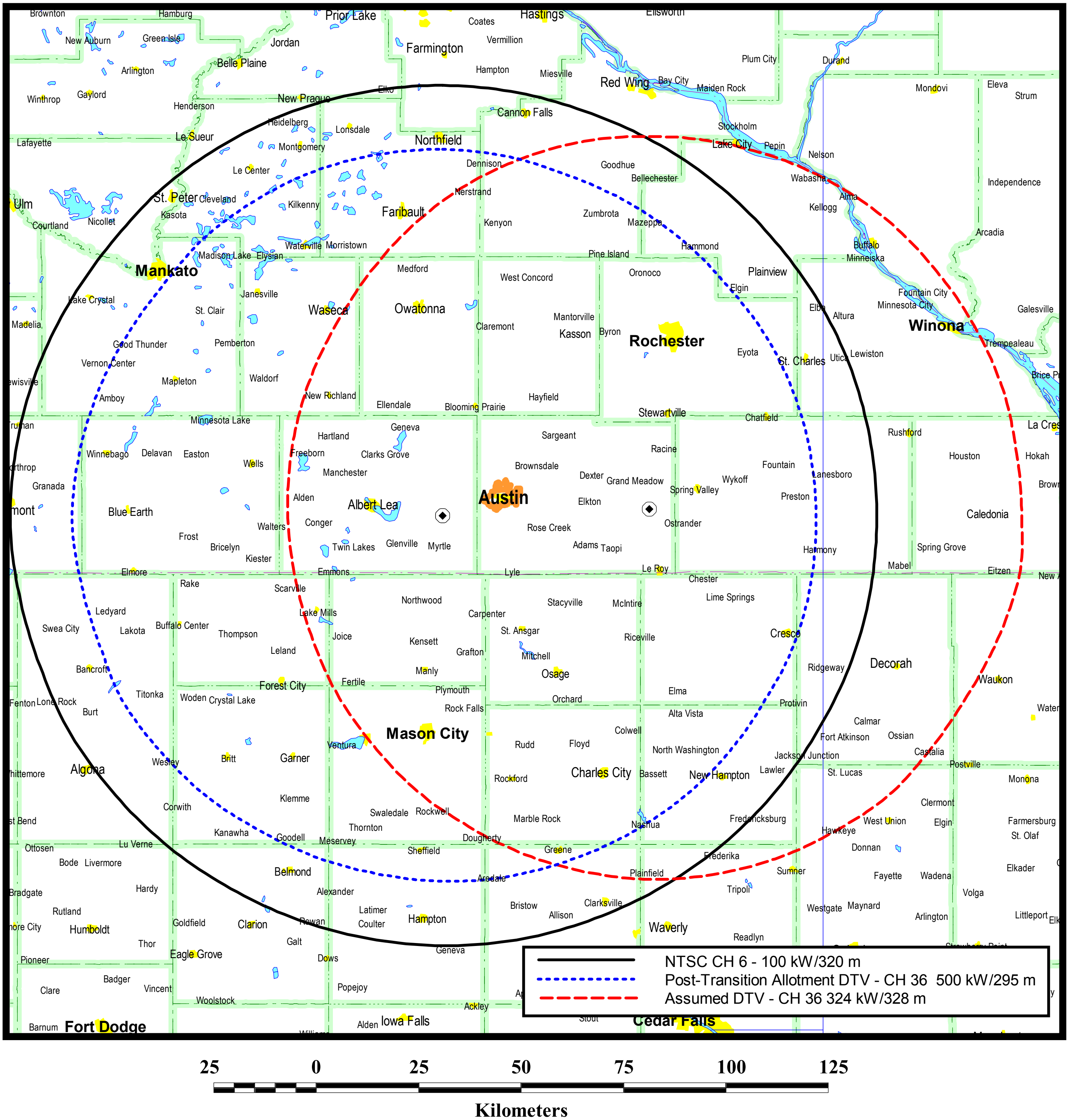
October 25, 2007

[1] See FCC File Number: BCERCT-20041105AVW.

Figure 1



PREDICTED COVERAGE CONTOURS

STATION KAAL
AUSTIN, MINNESOTA

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

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OET-69 Analysis

Census data selected 2000

Post Transition Data Base Selected
/export/home/cdbs/tvdb.sff_G
TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 10-22-2007 Time: 17:31:56

Record Selected for Analysis

KAAL USERRECORD-01 AUSTIN MN US
Channel 36 ERP 324. kW HAAT 326. m RCAMSL 00740 m
Latitude 043-38-34 Longitude 0092-31-35
Status APP Zone 2 Border
Last update Cutoff date Docket
Comments
Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	324.000	333.6	90.6
45.0	324.000	334.4	90.7
90.0	324.000	330.4	90.3
135.0	324.000	332.5	90.5
180.0	324.000	327.5	90.0
225.0	324.000	317.2	88.8
270.0	324.000	310.2	87.9
315.0	324.000	321.8	89.3

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountian

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

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Start of Interference Analysis

Channel	Call	City/State	ARN
		Proposed Station	
36	KAAL	AUSTIN MN	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
35	KRIN	WATERLOO IA	157.1	CP	BPEDT	-20000314AAB
35	KSTP-TV	ST. PAUL MN	165.1	CP	BFRCCT	-20050304ABE
36	KWQC-TV	DAVENPORT IA	313.1	CP MOD	BMPCDT	-20021015AAM
36	KWSD	SIOUX FALLS SD	326.1	CP	BPCDT	-20010618AAI
36	WLEF-TV	PARK FALLS WI	311.5	CP	BDTV	-00000246

%%%

Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
35	KRIN	WATERLOO IA	BPEDT	-20000314AAB

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
34	KEFB	AMES IA	159.5	CP	BPET	-19960712KL
34	KQIN	DAVENPORT IA	149.7	CP	BPEDT	-20000501AIC
35	KHIN	RED OAK IA	301.4	CP	BPEDT	-20000327ABE
35	KSTP-TV	ST. PAUL MN	322.1	CP	BFRCCT	-20050304ABE
35	WMVT	MILWAUKEE WI	334.4	CP MOD	BMPEDT	-20040618AAN
36	KWQC-TV	DAVENPORT IA	165.7	CP MOD	BMPCDT	-20021015AAM
36	KAAL	AUSTIN MN	157.1	APP	USERRECORD-01	

Total scenarios = 1

Result key: 1
Scenario 1 Affected station 1
Before Analysis

Results for: 35A IA WATERLOO BPEDT 20000314AAB CP
HAAT 584.0 m, ATV ERP 250.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	900802	36354.2
not affected by terrain losses	878376	35926.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	8923	258.1
lost to ATV IX only	8923	258.1
lost to all IX	8923	258.1

Potential Interfering Stations Included in above Scenario 1

35A IA RED OAK	BPEDT	20000327ABE	CP
35A MN ST. PAUL	BFRCCT	20050304ABE	CP
35A WI MILWAUKEE	BMPEDT	20040618AAN	CP
36A IA DAVENPORT	BMPCDT	20021015AAM	CP

After Analysis

Results for: 35A IA WATERLOO BPEDT 20000314AAB CP
HAAT 584.0 m, ATV ERP 250.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	900802	36354.2
not affected by terrain losses	878376	35926.8
lost to NTSC IX	0	0.0

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   lost to additional IX by ATV        9011        282.3
   lost to ATV IX only                 9011        282.3
   lost to all IX                      9011        282.3

 Potential Interfering Stations Included in above Scenario     1

35A IA RED OAK              BPEDT     20000327ABE  CP
35A MN ST. PAUL             BFRCCT    20050304ABE  CP
35A WI MILWAUKEE            BMPEDT    20040618AAN  CP
36A IA DAVENPORT            BMPCDT    20021015AAM  CP
36A MN AUSTIN               USERRECORD01           APP

Percent new IX =    0.0101%

Worst case new IX    0.0101% Scenario      1

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     Analysis of Interference to Affected Station   2


Analysis of current record
Channel     Call           City/State        Application Ref. No.
   35      KSTP-TV    ST. PAUL MN               BFRCCT    -20050304ABE

     Stations Potentially Affecting This Station

Chan   Call      City/State           Dist(km) Status  Application Ref. No.
 34   KTCA-TV  SAINT PAUL MN              1.3  LIC    BLEDT     -20060802AAO
 35   KRIN     WATERLOO IA              322.1  CP     BPEDT     -20000314AAB
 36   KAAL     AUSTIN MN                165.1  APP    USERRECORD-01

 Total scenarios =   1


Result key:        2
Scenario        1  Affected station        2
Before Analysis

Results for: 35A MN ST. PAUL             BFRCCT    20050304ABE  CP
   HAAT  433.0 m, ATV ERP  755.0 kW
                                  POPULATION   AREA (sq km)
   within Noise Limited Contour     3425231      35872.6
   not affected by terrain losses   3410983      35449.8
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV         985         48.3
   lost to ATV IX only                  985         48.3
   lost to all IX                       985         48.3

 Potential Interfering Stations Included in above Scenario     1

34A MN SAINT PAUL           BLEDT     20060802AAO  LIC
35A IA WATERLOO             BPEDT     20000314AAB  CP

After Analysis

Results for: 35A MN ST. PAUL             BFRCCT    20050304ABE  CP
   HAAT  433.0 m, ATV ERP  755.0 kW
                                  POPULATION   AREA (sq km)
   within Noise Limited Contour     3425231      35872.6
   not affected by terrain losses   3410983      35449.8
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV        1130         68.5
   lost to ATV IX only                 1130         68.5
   lost to all IX                      1130         68.5

 Potential Interfering Stations Included in above Scenario     1

34A MN SAINT PAUL           BLEDT     20060802AAO  LIC
35A IA WATERLOO             BPEDT     20000314AAB  CP
36A MN AUSTIN               USERRECORD01           APP

Percent new IX =    0.0043%
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Worst case new IX    0.0043% Scenario      1

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     Analysis of Interference to Affected Station   3


Analysis of current record
Channel     Call           City/State        Application Ref. No.
   36      KWQC-TV    DAVENPORT IA              BMPCDT    -20021015AAM

     Stations Potentially Affecting This Station

Chan   Call      City/State           Dist(km) Status  Application Ref. No.
 35   KRIN     WATERLOO IA              165.7  CP     BPEDT     -20000314AAB
 36   WJYS     HAMMOND IN               236.6  LIC    BLCDT     -20020801ABI
 36   WTWO     TERRE HAUTE IN           342.2  CP MOD BMPCDT    -20070125ADB
 36   KAAL     AUSTIN MN                313.1  APP    USERRECORD-01

 Total scenarios =   1


Result key:        3
Scenario        1  Affected station        3
Before Analysis

Results for: 36A IA DAVENPORT            BMPCDT    20021015AAM  CP
   HAAT  329.0 m, ATV ERP  696.4 kW
                                 POPULATION   AREA (sq km)
   within Noise Limited Contour     1015725      29536.0
   not affected by terrain losses   1001238      29335.9
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV        2179         32.0
   lost to ATV IX only                 2179         32.0
   lost to all IX                      2179         32.0

 Potential Interfering Stations Included in above Scenario     1

35A IA WATERLOO             BPEDT     20000314AAB  CP
36A IN HAMMOND              BLCDT     20020801ABI  LIC
36A IN TERRE HAUTE          BMPCDT    20070125ADB  CP

After Analysis

Results for: 36A IA DAVENPORT            BMPCDT    20021015AAM  CP
   HAAT  329.0 m, ATV ERP  696.4 kW
                                 POPULATION   AREA (sq km)
   within Noise Limited Contour     1015725      29536.0
   not affected by terrain losses   1001238      29335.9
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV        2343         56.0
   lost to ATV IX only                 2343         56.0
   lost to all IX                      2343         56.0

 Potential Interfering Stations Included in above Scenario     1

35A IA WATERLOO             BPEDT     20000314AAB  CP
36A IN HAMMOND              BLCDT     20020801ABI  LIC
36A IN TERRE HAUTE          BMPCDT    20070125ADB  CP
36A MN AUSTIN               USERRECORD01           APP

Percent new IX =    0.0164%

Worst case new IX    0.0164% Scenario      1

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     Analysis of Interference to Affected Station   4


Analysis of current record
Channel     Call           City/State        Application Ref. No.
   36      KWSD       SIOUX FALLS SD            BPCDT     -20010618AAI
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     Stations Potentially Affecting This Station

Chan   Call      City/State           Dist(km) Status  Application Ref. No.
 36   KHGI-TV  KEARNEY NE               368.8  CP     BDTV      -00000243
 36   KAAL     AUSTIN MN                326.1  APP    USERRECORD-01

 Total scenarios =   1


Result key:        4
Scenario        1  Affected station        4
Before Analysis

Results for: 36A SD SIOUX FALLS          BPCDT     20010618AAI  CP
   HAAT  209.0 m, ATV ERP  151.6 kW
                                 POPULATION   AREA (sq km)
   within Noise Limited Contour      287450      16975.2
   not affected by terrain losses    287383      16951.2
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV           0          0.0
   lost to ATV IX only                    0          0.0
   lost to all IX                         0          0.0

 Potential Interfering Stations Included in above Scenario     1


After Analysis

Results for: 36A SD SIOUX FALLS          BPCDT     20010618AAI  CP
   HAAT  209.0 m, ATV ERP  151.6 kW
                                 POPULATION   AREA (sq km)
   within Noise Limited Contour      287450      16975.2
   not affected by terrain losses    287383      16951.2
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV          12          4.0
   lost to ATV IX only                   12          4.0
   lost to all IX                        12          4.0

 Potential Interfering Stations Included in above Scenario     1

36A MN AUSTIN               USERRECORD01           APP

Percent new IX =    0.0042%

Worst case new IX    0.0042% Scenario      1

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     Analysis of Interference to Affected Station   5


Analysis of current record
Channel     Call           City/State        Application Ref. No.
   36      WLEF-TV    PARK FALLS WI            BDTV      -00000246

     Stations Potentially Affecting This Station

Chan   Call      City/State           Dist(km) Status  Application Ref. No.
 35   WLUC-TV  MARQUETTE MI            191.8  CP     BPCDT     -20041021ADR
 36   KAAL     AUSTIN MN                311.5  APP    USERRECORD-01

 Total scenarios =   1


Result key:        5
Scenario        1  Affected station        5
Before Analysis

Results for: 36A WI PARK FALLS           BDTV      00000246     CP
   HAAT  445.0 m, ATV ERP   50.0 kW
                                 POPULATION   AREA (sq km)
   within Noise Limited Contour      140388      22808.1
   not affected by terrain losses    139591      22223.1
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   lost to NTSC IX                          0          0.0
   lost to additional IX by ATV             0          0.0
   lost to ATV IX only                      0          0.0
   lost to all IX                           0          0.0

 Potential Interfering Stations Included in above Scenario     1


After Analysis

Results for: 36A WI PARK FALLS           BDTV      00000246     CP
   HAAT  445.0 m, ATV ERP   50.0 kW
                                  POPULATION   AREA (sq km)
   within Noise Limited Contour      140388      22808.1
   not affected by terrain losses    139591      22223.1
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV         710         12.0
   lost to ATV IX only                  710         12.0
   lost to all IX                       710         12.0

 Potential Interfering Stations Included in above Scenario     1

36A MN AUSTIN               USERRECORD01           APP

 The following station failed the de minimis interference criteria.
 36D MN AUSTIN               USERRECORD01
 ERP  324.00 kW  HAAT   326.0 m  RCAMSL   740.0 m
 Antenna     none

 Due to interference to the following station and scenario:     1
 36D WI PARK FALLS           BDTV      00000246
 ERP   50.00 kW  HAAT   445.0 m  RCAMSL   920.0 m
 Antenna CDB 00000000074583

 Percent Service lost without proposal:     0.0  to BDTV      00000246
 Percent Service lost with proposal:        0.5  to BDTV      00000246


Worst case new IX    0.5086% Scenario      1

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     Analysis of Interference to Affected Station   6


Analysis of current record
Channel     Call           City/State        Application Ref. No.
   36      KAAL       AUSTIN MN                USERRECORD-01

     Stations Potentially Affecting This Station

Chan   Call      City/State           Dist(km) Status  Application Ref. No.
 35   KRIN     WATERLOO IA              157.1  CP     BPEDT     -20000314AAB
 35   KSTP-TV  ST. PAUL MN              165.1  CP     BFRCCT    -20050304ABE
 36   KWQC-TV  DAVENPORT IA             313.1  CP MOD BMPCDT    -20021015AAM
 36   KWSD     SIOUX FALLS SD           326.1  CP     BPCDT     -20010618AAI
 36   WLEF-TV  PARK FALLS WI            311.5  CP     BDTV      -00000246

 Total scenarios =   1


Result key:        6
Scenario        1  Affected station        6
Before Analysis

Results for: 36A MN AUSTIN               USERRECORD01           APP
   HAAT  326.0 m, ATV ERP  324.0 kW
                                  POPULATION   AREA (sq km)
   within Noise Limited Contour      496639      25475.1
   not affected by terrain losses    475961      24873.9
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV         408         60.5
   lost to ATV IX only                  408         60.5
   lost to all IX                       408         60.5
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Potential Interfering Stations Included in above Scenario 1

35A IA WATERLOO	BPEDT	20000314AAB	CP
35A MN ST. PAUL	BFRCCT	20050304ABE	CP
36A IA DAVENPORT	BMPCDT	20021015AAM	CP
36A WI PARK FALLS	BDTV	00000246	CP

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